

BIBLIOGRAPHY

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ABSTRACT

This study documented the community-based watershed conservation practices: the case study of the maupa watershed in Ampucao.Itogon, Benguet relative to the characterization of the maupa watershed. socio-economic profile of the respondents, the activities undertaken by the community residents for the conservation of the Maupa Watershed, the intervention from the Barangay Local Government Unit for the conservation of the Maupa Watershed, and the different problems encountered by the residents in the conservation of the Maupa Watershed. It was conducted at Dalicno, Itogon, in the province of Benguet. It involved 30 respondents from Purok Demang and Midway. Data gathering was undertaken in October 2011.

The age of the respondents ranged from 16 to 80 years old. The greatest number of respondents falls under the age bracket of 16 to 20 and 56 to 60. The oldest respondent is 80 years old. All the respondents had formal education. The greatest number of respondents finished college. According to the respondents who did not finish college, they were constrained by financial problems so they preferred to seek for a job and earn.



With regards to the findings of the study, the respondents strongly believe that protecting the Maupa watershed will in turn, save their lives. As such, there are certain activities undertaken by the community residents for the conservation of the watershed. The respondents claimed to have exerted effort in safeguarding the watershed against forest fire, illegal loggers and illegal settlers. The Barangay Captain revealed that they have been patrolling the area on a regular basis. Nevertheless, they did not deny that there are still individuals who insist on destroying if not, destroying it. Other activities include planting trees on grassland and/or barren land, and caring of wildlings or naturally-grown trees.

With regards to the problems encountered, the respondents looked at illegal loggers as the biggest threat on the conservation of the Maupa watershed. Other problems include presence of swidden farms and other agricultural production activities in the area, run-off water from the mining area which affects the watershed, natural calamities, and shortage of water supply resulting from human intervention. Based on the findings of the study recommendations are therefore formulated for the betterment of the Maupa watershed. The community residents especially the youth should participate on set activities like tree planting, safeguarding the watershed and conduct seminars to make everyone aware on the environmental concerns and be more responsible in the conservation and preservation to have a clean, clear, healthy and sustainable watershed.

Lastly, the Barangay LGU should seek assistance from the Municipal LGU to provide enough materials for the sustainable development and equitable preservation and management of the Maupa watershed. They should work hand in hand to formulate policies that will integrate environmental thinking into the development decisions in the conservation practices of the Maupa watershed.



RESULTS AND DISCUSSION

This section presents the characteristics of the Maupa watershed and profile of respondents. It also reflects the activities undertaken by the community residents for the conservation of the Maupa watershed, and the interventions from the Barangay Local Government Units. Moreover, the problems encountered by the residents on the conservation of the watershed are also included.

Characteristics of the Maupa Watershed

Table 1 shows the characteristics of the Maupa watershed as to area, location and ownership. Based on Barangay Ampucao Records (2009), the watershed is located in SitioMaupa and has an estimated land area of 100 hectares. Situated on the eastern part of the Barangay, the watershed is bounded on the north by Ampucao Poblacion, south by Sangilo, east by Cruz and west by CotcotAso. As to ownership, the watershed is classified as communal.

According to the Barangay officials, the watershed is owned by the government. However, there were individuals who have been vesting interest on the ownership of the area but they have failed to present authentic evidences.

Table 1. Characteristics of the Maupa watershed

PARAMETER	DESCRIPTION
Area	100 hectares
Location	SitioMaupa
Ownership	Communal



Profile of the Respondents

The profile of the respondents as to the gender, civil status, age bracket, highest educational attainment, religion and occupation is shown in Table 2. As shown in the table, majority of the respondents are females and married. Of the 30 respondents, the number of males and females are almost the same. It may imply that the key informants on the Maupa watershed have equal representation as to gender.

Table 2. Profile of the respondents

PROFILE	NO. OF RESPONDENTS (N = 30)	PERCENTAGE (%)
a. Gender		
Female	16	53.33
Male	14	46.67
TOTAL	30	100.00
b. Civil Status		
Married	21	70.00
Single	9	30.00
TOTAL	30	100.00
c. Age Bracket		
16-20	6	20.00
21-25	1	3.33
26-30	1	3.33
31-35	2	6.67
36-40	2	6.67
41-45	3	10.00



Table 2.continued. . .

PROFILE	NO. OF RESPONDENTS (N = 30)	PERCENTAGE (%)
46-50	1	3.33
51-55	3	10.00
56-60	6	20.00
61-65	1	3.33
66-70	1	3.33
71-75	2	6.67
76-80	1	3.33
TOTAL	30	100.00
d. Highest Educational Attainment		
Elementary graduate	7	23.33
High School graduate	9	30.00
College graduate	13	43.34
Vocational course graduate	1	3.33
TOTAL	30	100.00
e. Religion		
Roman Catholic	23	76.66
Assembly of God	3	10.00
Baptist	2	6.67
United Church of Christ in the Philippines	2	6.67
TOTAL	30	100.00
f. Occupation		
Miner	10	33.33
Housewife	8	26.67



Table 2.continued. . .

PROFILE	NO. OF RESPONDENTS (N = 30)	PERCENTAGE (%)
Student	6	20.00
Government employee	3	10.00
Self-employed	1	3.33
TOTAL	30	100.00

*Multiple responses

The age of the respondents ranges from 16 to 80 years old. The greatest number of respondents falls under the age bracket of 16 to 20 and 56 to 60. The oldest respondent is 80 years old.

All the respondents had formal education. The greatest number of respondents finished college. Some were able to finish elementary or high school. One respondent claimed to have finished vocational course. According to the respondents who did not finish college, they were constrained by financial problems so they preferred to seek for a job and earn.

The table also reflects the religion of the respondents. More than 75% of the respondents are Roman Catholics. In a descending order, the religions of the other respondents are Assembly of God, Baptist, and United Church of Christ in the Philippines.

The occupation of more than 30% of the respondents proves the classification of Ampucao as a mining community. Aside from being host to the Philex Mining Corporation, the presence of small-scale miners is also evident in the community. There were six respondents who are students in different universities in Baguio City and La Trinidad.



Activities Undertaken by the Community Residents for the Conservation of the Maupa Watershed

The activities undertaken by the community residents for the conservation of the Maupa watershed are shown in Table 3. According to the respondents, the community residents strongly believe that protecting the Maupa watershed will in turn, save their lives. As such, there are certain activities undertaken by the community residents for the conservation of the watershed.

The foregoing scenario relates to the claims of Reinold (1988) that effective management of watershed depends on comprehensive human understanding of the components of watershed and their interactions. The application of the ecological principles to watershed planning has recently become one of the most important topics of natural resources management discussion. Traditionally, interest in balanced natural resources (land and water) management has come only after human have first severely damaged a landscape. To paraphrase the world famous naturalist Aldo Leopold: Human do not seem to be able to understand a system that they did not build; instead, they seemingly must partially destroy and rebuild the system before its uses and limitations are understood and appreciated.

As reflected on the table, the activities are categorized as very much undertaken, moderately undertaken, and not undertaken at all. A great majority of the respondents claimed to have exerted effort in safeguarding the watershed against forest fire, illegal loggers and illegal settlers. The Barangay Captain revealed that they have been patrolling the area on a regular basis. Nevertheless, they did not deny that there are still individuals who insist on destroying if not, destroying it.



Table 3. Activities undertaken by the community residents for the conservation of the Maupa watershed

ACTIVITY	NUMBER OF RESPONDENTS					
	VMU	%	MU	%	NU	%
Safeguarding the watershed from forest fire, illegal loggers and illegal settlers	23	76.67	6	20.00	1	3.33
Planting trees on grassland/barren land	18	60.00	12	40.00	1	3.33
Replacing dead trees and/or mulching	11	36.67	14	46.67	1	3.33
Caring of wildlings or naturally-grown trees	10	33.33	19	63.33	0	0.00

*Multiple responses (VMU-Very Much Undertaken; MU-Moderately Undertaken, NU-Not Undertaken)

According to the Ampucao Barangay Records (2009), rampant illegal cutting was observed in the watershed area. During an inspection, the team observed three groups of timber poachers. Patches of vegetable gardens and swidden farms were likewise visible within the watershed area. Sixty percent of the respondents also claimed that planting trees on grassland and/or barren land is very much undertaken. According to the respondents, the seedlings were sourced out by the Local Government Units.

Moreover, 19 respondents stated that caring of wildlings or naturally-grown trees is moderately undertaken to conserve the Maupa watershed. At least one respondent claimed to have done nothing for the conservation of the watershed.

Intervention from the Barangay LGU for the Conservation of the Maupa Watershed

Table 4 shows the interventions from the Barangay Local Government Unit for the conservation of the Maupa watershed. These are categorized as to whether they are very much undertaken, moderately undertaken, or not undertaken.



Table 4. Interventions undertaken by the Barangay LGU for the conservation of the Maupa watershed

INTERVENTION	NUMBER OF RESPONDENTS					
	VMU	%	MU	%	NU	%
Barangay LGU processes documents on the ownership of the watershed	25	83.33	3	10.00	2	6.67
Barangay LGU prohibits the community residents and nearby communities relative to occupancy and/or alienation of the watershed	16	53.33	6	20.00	8	26.67
Barangay LGU sets policies and implements sanctions to violators relative to the conservation of the watershed	14	46.67	12	40.00	5	16.67
Barangay LGU donated planting materials (seedling) during the tree planting activities	5	16.67	6	20.00	19	63.33
Barangay LGU allows the community residents to have free access to fauna and flora product but not for commercial purposes	4	13.33	7	23.33	19	63.33
Barangay LGU allows the community residents have free access on the watershed for hunting wild animals and birds	3	10.00	5	16.67	22	73.33

*Multiple responses (VMU-Very Much Undertaken; MU-Moderately Undertaken, NU-Not Undertaken)

According to a great majority of the respondents, the Barangay LGU processes the pertinent documents on the ownership of the watershed. The Barangay Captain revealed that they are doubling their efforts to maintain the watershed as community in nature. Relatively, more than 50% of the respondents claimed that the LGU is very firm in its stand of prohibiting the community residents and nearby communities to occupy or alienate the watershed.

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On the other hand, more than 70% of the respondents stated that the Barangay LGU is not strict in implementing rules in prohibiting community residents from hunting wild animals and birds in the watershed. Similarly, there were 19 respondents who claimed that the Barangay LGU is not strict in regulating the access of the community residents on the watershed flora and fauna, and they are not consistent in donating planting materials (seedling)during the tree planting activities.

Problems Encountered by the
Community Residents in the Conservation of
theMaupa Watershed

Table 5 shows the problems encountered by the community residents relative to the conservation of the Maupa watershed. A great majority of the respondents looked at illegal loggers as the biggest threat on the conservation of the Maupa watershed. Figure 3 shows members of the community planting trees at the Maupa watershed



Figure 3.Members of the community planting trees at the Maupa watershed

Table 5. Problems encountered by community residents in the conservation of the Maupa watershed

PROBLEM	NUMBER OF RESPONDENTS					
	VS	%	MS	%	NS	%
Presence of illegal loggers in the area	20	66.67	5	16.67	5	16.67
Presence of swidden farms and other agricultural production activities in the area	12	40.00	7	23.33	11	36.67
Run-off water from the mining area affects the watershed	11	36.67	2	6.67	17	56.67
Natural Calamities affects and destroys the watershed	10	33.33	17	56.67	3	10.00
Shortage of water supply resulting from human intervention on the watershed	8	26.67	11	36.67	12	40.00

*Multiple responses(VS-Very Much Serious; MS-Moderately Serious, NS-Not Serious)

Moreover, there were 12 respondents who cited the presence of swidden farms and other agricultural production activities in the area as a big problem. The other problems, in a descending order of gravity, are as follows: run-off water from the mining area which affects the watershed, natural calamities, and shortage of water supply resulting from human intervention.

Findings of the study relate to the claim of Pereira (1989) that considered as a very serious threat to our forests are commercial loggings and kaingin or slash-and-burn farming system to give way to commercial gardening. As demand for livelihood increases the depletion of forest resources become fast paced. The most critical aspects of upper watershed management which directly affect the lives and property of downstream users are the effects on floods, on water supplies and on sediments transport. Figure 4 shows the



presence of swidden farms and other agricultural production activities at the Maupa watershed.



Figure 4. The presence of swidden farms and other agricultural production activities at the Maupa watershed

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

This study documented the community-based watershed conservation practices: the case study of the maupa watershed in Ampucao.Itogon, Benguet relative to the characterization of the maupa watershed. socio-economic profile of the respondents, the activities undertaken by the community residents for the conservation of the Maupa Watershed, the intervention from the Barangay Local Government Unit for the conservation of the Maupa watershed, and the different problems encountered by the residents in the conservation of the Maupa watershed. It was conducted at Dalicno, Itogon, in the province of Benguet. It involved 30 respondents who were residents of purokDemang and Midway. Data gathering was undertaken in October 2011.

As to the characteristics of the Maupa watershed, it is located at Sitio Maupa and has estimated land area of 100 hectares. It is classified as communal.On the profile of the respondents, majority are female and married. The greatest number of the respondents falls under the age bracket 16 to 20 and 56 to 60. The oldest respondent is 80 years old and the youngest is 16 years old.

All the respondents had formal education. The greatest number of respondents finished college. Some were able to finish elementary and high school. One respondent claimed to have finished vocational course. According to the respondents who did not finish college, they were constrained by financial problems so they preferred to seek for job and earn.On the religion of the respondents, more than 75% of the respondents are Roman Catholics. In descending order, the religions of the other respondents are Assembly of God, Baptist and United Church of Christ in the Philippines.



The occupation of more than 30% of respondents proves the classification of Ampucao as a mining community. Aside from being host of the Philex Mining Corporation, the presence of small-scale miners is also evident in the community. There were six respondents who are students in different universities in Baguio City and La Trinidad.

In the activities undertaken by the community residents for the conservation of the Maupa watershed, the community residents strongly believed that protecting the Maupa watershed will in turn save their lives.

As such, there are certain activities undertaken by the community residents for the conservation of the watershed. A great majority of the respondents claimed to have exerted effort in safeguarding the watershed against forest fire, illegal loggers and illegal settlers.

Sixty percent of the respondents also claimed that planting trees on grassland and/or barren land is very much undertaken. According to the respondents, the seedlings were sourced out by the Local Government Units.

Moreover, 19 respondents stated that caring of wildlings or naturally-grown trees is moderately undertaken to conserve the Maupa watershed. At least one respondent claimed to have done nothing for the conservation of the watershed.

The Barangay LGU processes the pertinent documents on the ownership of the watershed. The Barangay Captain revealed that they are doubling their efforts to maintain the watershed as community in nature. Relatively, more than 50% of the respondents claimed that the LGU is very firm in its stand of prohibiting the community residents and nearby communities to occupy or alienate the watershed.



On the other hand, more than 70% of the respondents stated that the Barangay LGU is not strict in implementing rules in prohibiting community residents from hunting wild animals and birds in the watershed. Similarly, there were 19 respondents who claimed that the Barangay LGU is not strict in regulating the access of the community residents on the watershed flora and fauna, and they are not consistent in donating planting materials (seedling) during the tree planting activities.

The most common problems encountered by the community residents relative to the conservation of the Maupa watershed were: illegal loggers as the biggest threat on the conservation of the Maupa watershed. Moreover, there were 12 respondents who cited the presence of swidden farms and other agricultural production activities in the area as a big problem. The other problems, in a descending order of gravity, are as follows: run-off water from the mining area which affects the watershed, natural calamities, and shortage of water supply resulting from human intervention.

Conclusion

Based on the findings of the study, the following conclusions were drawn:

1. The respondents undertook several measures to preserved and conserved for the conservation of the Maupa watershed such as; planting trees on grassland/barren land, replacing dead trees, caring on wildling or naturally grown trees, and safe guarding the watershed.
2. The declaration of the Maupa watershed as own by the government is being enforced and implemented by the Barangay LGU incorporated by the Local Government Unit.



3. The respondents encountered several problems in the conservation of the Maupa watershed such as; the presence of illegal loggers in the area, presence of swidden farmers and other agricultural production activities in the area, run-off water from the mining area, affects the watershed, shortage of water supply resulting from human intervention on the watershed, and natural calamities affects and destroys the watershed.

Recommendations

The following are recommended:

1. The community residents especially the youth should participate on set activities like tree planting, safeguarding the watershed and conduct seminars to make everyone aware on the environmental concerns and be more responsible in the conservation and preservation to have a clean, clear, healthy and sustainable watershed.
2. The Barangay LGU should seek assistance from the Municipal LGU to provide enough materials for the sustainable development and equitable preservation and management of the Maupa watershed. They should work hand in hand to formulate policies that will integrate environmental thinking into the development decisions in the conservation practices of the Maupa watershed.



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